The Relationships Between K-Management, Corporate Entrepreneurship and Firm's Financial Performance

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ABSTRACT

In a study of Sungai Petani industrial companies, it was observed that while knowledge management offers cost savings, the real value is in more forward-looking managers that are technological entrepreneurs working in adaptive organizational environments. These managers are fundamental drivers of the technological innovation process. Their activities will create new resource combinations to make innovation possible, bringing together the technical and commercial worlds in profitable ways. Their administrative capabilities must be deployed both effectively and efficiently. Technological entrepreneurship can involve one individual (individual entrepreneurship) or the combined activities of multiple participants in an organization (corporate entrepreneurship). These companies derive benefits in faster product development, improved decision-making, more skilled employees, and enhanced services that better meet customer needs. These benefits will surface in measures such as cycle-time reductions, better resource returns, higher product satisfaction indexes, and increased employee education levels. Many of the organizations surveyed now recognize that knowledge management is critical to the survival and growth of their business. They are aware of the need to distribute information throughout the organization by making use of a variety of operational knowledge management techniques. Their main concern is to connect people to the system being used for the distribution and transfer of knowledge. Knowledge management gives balance by linking the building of company's knowledge to business strategy.

Keywords

K-Management, Corporate Entrepreneurship, Financial Performance

1.0 INTRODUCTION

Knowledge management can be defined in other words as the achievement of the organization's goals by making the factor knowledge productive. We facilitate and motivate people to tap into and develop their capacities (their core competencies) and stimulate their attitude to intrapreneurship. Besides this, knowledge management includes the entirety of systems with which the information within an organization can be managed and opened up (Beijerse, 2000). The discipline of knowledge management is little more than ten years old. Bob Buckman, president, CEO and chairman of Buckman Laboratories and Wiig (1993, 1994, 1995) can be described as amongst the field's most prominent advocates as well as its likely founders. With the rising importance of knowledge in our global economy, knowledge management has gained worldwide attention. Individuals including Sveiby (1997), Stewart (1997), Davenport and Prusak (1998), Allee (1997) and Nonaka (1991) have taken on the challenge to discover the opportunities, practices and benefits of knowledge management. Companies such as Buckman Laboratories, Dow Chemical, Skandia, Hewlett-Packard, Celemi, and IBM to name a few, have leap-frogged on the knowledge management initiative in order to more effectively manage and utilize the knowledge and expertise in their organizations.

Organizational knowledge has an increasing impact on the firms' survival and success in the globalize environment. This situation has increased their interest in intellectual capital. However, the mere measurement does not tell how knowledge really ``works" in a company, and how the value of intellectual capital could be increased. Therefore, a more profound understanding of the underlying knowledge processes is needed. Conventionally, the companies and other organizations are regarded as ``open" input-output process systems. Applied to knowledge, this would mean that a firm takes in information and processes it into knowledge. However, this model is far too simplistic to describe knowledge processes. Instead the firms can benefit from recent research in the field of biological phenomenology and neurophysiology, and especially from the development of autopoiesis theory, the theory of ``selfproduction" (Maturana & Varela, 1980, 1987; von Krogh & Roos, 1995; Mingers, 1995). The term ``autopoiesis" originates from the Greek words ``auto" (self) and poiesis", ``poein" (production). Autopoiesis theory explains the nature of living (as opposed to non-living) entities. It claims that living systems undergo a continual process of internal self-

production whereas non-living systems (allopoietic) produce something other than their own self-components (Mingers, 1995). Because autopoiesis theory is a general systems theory, it can be applied on other than biological phenomena as well, provided that certain conditions are met. Therefore, also the companies can be regarded as living systems that reproduce themselves and their own strategic components and boundary elements and in a continuous manner (Maula, 2000).

The four core processes of knowledge management are: knowledge creation, knowledge sharing, knowledge application and knowledge retention. Once knowledge objectives are set and existing knowledge assessed, a management system can be constructed which will give a helpful start to all knowledge managers. Knowledge management can be applied to individuals, groups, or organizational structures. It has a strategic and normative aspects as well as the operational use. Identifying external knowledge means analysing and describing the company's knowledge environment. A surprisingly large number of companies now find it difficult to maintain a general picture of internal and external data, information and skills. This lack of transparency leads to inefficiency, uninformed decisions and duplication. Effective knowledge management must therefore ensure sufficient internal and external transparency, and help individual employees to locate what they need. Companies import a substantial part of their knowledge from outside sources. Relationships with customers, suppliers, competitors and partners in co-operative ventures have considerable potential to provide knowledge – a potential that seldom fully utilized. Firms can also buy knowledge which they could not develop for themselves by recruiting experts or acquiring other particularly innovative companies. Systematic knowledge management must take these possibilities into account. Knowledge development is a building block that complements knowledge acquisition. Its focus is on generating new skills, new products, better ideas and more efficient processes. Knowledge development includes all management efforts consciously aimed at producing capabilities which are not yet present within the organization, or which do not yet exist either inside or outside it. Traditionally, knowledge development is anchored in the company's market research and in its research and development department; however, important knowledge can also spring from any other part of the organization. In this building block, we examine the company's general ways of dealing with new ideas and utilizing the creativity of its employees. When considered from the point of view of knowledge management, even activities that were previously regarded simply as production processes can be analysed and optimised so as to yield knowledge. While knowledge management offers cost savings, the real value is in more forward-looking managers that are technological entrepreneurs working in adaptive organizational environments. These managers are fundamental drivers of the technological innovation process. Their activities will create new resource combinations to make innovation possible, bringing together the technical and commercial worlds in profitable ways. Their administrative capabilities must be deployed both effectively and efficiently. Technological entrepreneurship can involve one individual (individual entrepreneurship) or the combined activities of multiple participants in an organization (corporate entrepreneurship).

Despite the fact that there remains a considerable degree of definitional ambiguity about the corporate entrepreneurship construct, entrepreneurship and corporate entrepreneurship literature seem to agree on the differentiation between the nature of independent entrepreneurship and corporate entrepreneurship. Independent entrepreneurship is seen as the process whereby a single individual or a group of individuals create a new organization, acting independently of any association with an existing organization (Sharma & Chrisman, 1999). Corporate entrepreneurship is then considered as entrepreneurial activities being established in association with one or more existing organizations. However, the process of corporate entrepreneurship remains less well understood and why corporate entrepreneurship works remain a mystery (Burgelman, 1983; Covin & Miles, 1999); Hornsby et al., 2002). Throughout the years, researchers have used a variety of terms to describe the entrepreneurial efforts associated with existing organizations: corporate entrepreneurship (Carrier, 1996; Covin & Miles, 1999; Covin & Slevin, 1991; Dess et al., 1999; Hornsby et al., 2002; Jennings & Lumpkin, 1989; Stopford & Baden-Fuller, 1994; Ucbasaran et al., 2001; Zahra, 1991; Zahra, 1993; Zahra & Covin, 1995; Zahra et al., 2000), intrapreneurship (Antoncic & Hisrich, 2001; Carrier, 1996; Hostager et al. 1998; Kuratko et al., 1990; Pinchott, 1985), corporate venturing (MacMillan et al., 1986; Miles & Covin, 2002; Von Hippel, 1977), and internal corporate entrepreneurship (Jones & Butler, 1992).

The concept of corporate entrepreneurship can be characterized by three dimensions: product innovation, risk-taking propensity, and pro-activeness in the pursuit of new opportunities (Barringer & Bluedorn, 1999; Covin & Slevin, 1991; Zahra, 1991). Each dimension of corporate entrepreneurship can be linked to the a firm's strategic alliance portfolio. Tiessen (1997) found that organizations have looked to strategic alliances to support their pursuit of innovation. Through the use of cooperative agreements, organizations can gain access to key resources critical to maintaining the high levels of innovation necessary for corporate entrepreneurship activities (Miller, 1983). Risk taking propensity also is important to corporate entrepreneurship process. This

has been interpreted to mean moderate, calculated risk (Morris & Trotter, 1990; Pichot, 1987). As stated by Barrett and Weinstein (1998), high-risk projects leave too much to chance and low-risk projects do not provide the needed challenge. Finally, proactive organizations also are likely to seek opportunities in the external environment (Lumpkin & Dess, 1997; Stevenson & Jarillo, 1990). One method organizations can use to gather information and identify opportunities is by scanning the environment through the use of strategic alliances.

2.0 THEORETICAL FOUNDATIONS

According to a study conducted for the Directorate of Military Programs, Headquarters, U.S. Army Corps of Engineers, knowledge work is the area that offers the greatest opportunity to increase productivity within the US workforce. Ongoing research at the US Army Construction Engineering Research Laboratories is developing the Knowledge Worker System, an integrated performance support environment designed to improve the performance of Army knowledge workers. Knowledge management is one of many components of good management. Sound planning, savvy marketing, high-quality products and services, attention to customers, efficient structuring of work and thoughtful management of an organization's resources are all critical to compete in today's marketplace. Knowledge management may help create the competitive edge in today's global environment.

The process of converting written word into association into idea will provide you with a range of decisions. The process is complicated further by accompanying data, images and environmental stimuli. Multiply that process thousands of times each day adding charts, graphs, presentations, voice mail, conversations and consider that typical management and employees face increasingly large amounts of information in more forms that must be processed, understood and acted upon. Unless that information can be transferred into knowledge to improve sales, operations, strategic planning and bottom-line results, it can only lead to information overload and confusion. In computer systems the weakest link has always been between the machine and humans because this bridge spans a space that begins with the physical and ends with the cognitive. Advanced software and hardware technologies are converging in machine-human interfaces that vastly extend knowledge transfer capacities.

Karl Erik Sveiby, the author of The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets, contends that the confusion between knowledge and information has caused managers to sink billions of dollars in information technology ventures that have yielded marginal results. Sveiby asserts that business managers need to realize that unlike information, knowledge is embedded in people, and knowledge creation occurs in the process of social interaction (Sveiby, 1997). New design precepts are emerging as we accumulate experience. Participants interacting with the computer need to be able to interpret what's happening on the screen in terms of the real world. A well-designed learning computer lab leaves its participants with the skill to communicate without depending on a computer. The current business arena requires the need for a vast and complex interpretation of information outputs generated by computer systems. This variety is necessary to encompass the multiple global views of an unpredictable future. Brook Manville, Director of Knowledge Management at McKinsey & Company in Boston, views the implementation of these issues in terms of the shift from the traditional emphasis on transaction processing, integrated logistics, and workflows to systems that support competencies for communication building, people networks, and on the job learning (Malhotra, 1998). It should be noted that a key enabler for the implementation of knowledge management is technology. IT's role is emerging as an integrator of communications technology, rather than solely a keeper of information. The critical role for IT lies in its ability to support communication, collaboration, and those searching for knowledge and information, not static repositories of "best practices", according to the American Productivity and Quality Center International Benchmarking Clearinghouse study.

A lot of intellectual capital resides in the minds of IT workers. Companies such as Andersen Consulting, Ford, and Monsanto encourage employees to put "tacit" knowledge, the know-how in their heads, into "explicit" form, such as written reports or video presentations. This captured knowledge is then stored in repositories such as databases and intranet Web servers, all of which users can search. The ownership of intellectual capital has become a priority for many organizations, with several recent court cases having thrust this issue to the forefront. Wal-Mart Stores, Inc. filed a lawsuit last year against Amazon.com that alleges theft of trade secrets. Wal-Mart claims the defendants carefully recruited members of its staff who, as a group, have the knowledge to replicate information systems and business processes Wal-Mart has spent years and financial resources developing. A recent Supreme Court action affirmed that business methods linked with software can be patented. Savvy technology managers now use a combination of legal defenses and common sense to protect their companies' most innovative IT systems and to retain their talented information technology staff.

An organization's competitive potential rests almost wholly on how well it manages and deploys its corporate assets. These assets are comprised of financial, and tangible and intangible elements. For

simplicity, consider financial assets such as cash, and tangible assets including plant, equipment, and inventory; intangible assets including core competencies and technologies, management skills, culture, brand image, consumer loyalty, patents, distribution channels, and the like. In addition to being aware of the knowledge process and the infrastructures within which it takes place, a knowledge mapping project should have a conceptual focus (Soliman, 1998). Ideally the focus will be the fundamental business issues of the organization such as reducing errors or rework, or minimizing cycle time in some manufacturing organizations. Then the mapping project will provide useful results that improve the organizational efficiencies. Zack (1999) has advocated using the well known SWOT technique (strengths, weaknesses, opportunities and threats) as a tool to develop a knowledge mapping strategy specifically tailored to an organization's needs. Zack advises that knowledge-based SWOT analysis could lead to mapping knowledge resources and capabilities against

Traditionally corporate assets have been narrowly defined to include essentially only financial capital and tangible assets. However, it is clear that organizations require a much broader range of resources to be successful in any current market, and must ensure the right mix of tangible and intangible resources to effect desirable business outcomes. This is to say that organizations must not only value intangible assets for their inherent contribution to business success, but must actively and carefully consider their state in relation to financial and tangible assets during business strategizing and plan implementation.

Organizational knowledge is known to be important intangible resources of an organization to enable sustainable competitive advantage (Hitt, Ireland & Hoskisson, 1999). By managing knowledge firms will be able to accurately predict the nature and commercial potential of changes in the environment and the appropriateness of strategic and tactical actions (Cohen & Levinthal, 1990). Without knowledge management, organizations are less capable of discovering and exploiting new opportunities whilst evading new threats. For example, knowledge about markets and technology has strong potential for the firms to improve their performance because this will increase their abilities to discover and exploit market opportunities. This can be done through: (1) awareness of customer problems may have great generality and thus constitute real market opportunities; (2) it is easier to determine the market value of new scientific discoveries, technological changes etc.; (3) the locus of innovation often lies with users of new technologies who cannot easily articulate their needs for the not-yet-developed solutions to problems, and therefore organization must share some of the tacit knowledge as it's users (Cohen & Levinthal, 1990; Shane, 2000; von Hippel, 1994). Meanwhile, technological knowledge can also enhance a firm's ability to effectively exploit an opportunity by, for example, determining the product's optimal design to optimize functionality, cost, and reliability and ultimately the economic impact of exploiting the opportunity (Rosenberg, 1994). Therefore, technological knowledge enables firm to rapidly exploit opportunities or to be able to respond quickly when competitors make advancements (Cohen & Levinthal, 1990).

Several studies have appeared to advance the development of a theory of corporate entrepreneurship. Zahra (1991) developed a model of corporate entrepreneurship based on environmental, strategic and organizational variables and empirically tested the model. Russell and Russell (1992) have also developed and tested a model of intrapreneurship based on environmental, structural, strategic, and cultural variables. Hornsby et al. (1993) have proved an interactive model of the decision to act intrapreneurially, which is focused on individual and organizational variables. Covin and Slevin (1991) analyzed strategic and structural variables and tested the relationship between intrapreneuring and firm performance. Their model surveys much literature on corporate entrepreneurship and includes the following variables: entrepreneurial posture, external (environmental and industry measures), internal (structural and cultural measures), and strategic (mission strategy and competitive tactics). A complete model of corporate entrepreneurship must provide an explanation of how a flow of creative ideas are produced and how innovation-supporting behaviours become part of the development process in entrepreneurial organizations (Russell, 1995).

According to Gibson, Ivancevich and Donnelly (2000), for manager to predict behaviour with any accuracy, they must know something about an employee's goal and the action that he has to take to achieve them. Numerous motivation theories and research findings attempt to explain this behaviour-outcome relationship. Moretti, Morken and Borkowski (1991) in their study of intrapreneurial behaviours noted that the need for money alone is not the driving force behind any entrepreneurial dream. Intrapreneurs work with single-minded intensity because they are psychologically compelled to. They exhibit a desire for personal growth and development, and above all the desire to create something, whether a new product or process, a new organization or a new way of doing business. Other researchers also emphasize the intrapreneur's creative drive. McClelland (1961) found that intrapreneurs just like artists, tend to be strongly invested in their work. They have a great capacity for creative and innovative thoughts and behaviour. They are motivated by the need for achievement, challenge, and the opportunity to be innovative. Gibson, Ivancevich and Donnelly (2000) suggested that both content and process theories have important implications for managers, who by the nature

of their jobs are involved with the motivational process. Content theories focus on the factors within the person that energize, direct, sustain, and stop behaviour. They attempt to determine the specific needs that motivate people. The content theories focus on individual needs in explaining job satisfaction, worker behaviour, and reward systems. The theories suggest that within a person, individual need deficiencies activate tensions that trigger a behavioural response. Meanwhile, process theories describe and analyze how behaviour is energized, directed, sustained, and stopped by factors primarily external to the person.

Other terms used to describe corporate entrepreneurship: intrapreneuring (Pinchot, 1985), intrapreneurship (Hisrich & Peters, 1998), intra-corporate entrepreneurship (Copper, 1981), corporate venturing (Vesper, 1990), internal corporate entrepreneurship (Schollhammer, 1981, 1982; Jones & Butler, 1992), innovative (Miller & Friesen, 1983) and entrepreneurial strategy making (Dess, Lumpkin & Covin, 1997), firm-level entrepreneurial posture (Covin & Slevin, 1986, 1991) and orientation entrepreneurship. However, in this study, corporate entrepreneurship is defined as entrepreneurship within an existing organization, referring to emergent behavioral intentions and behaviours of an organization, which are related to departures from the customary ways of doing business. Corporate entrepreneurship refers not only to creation of new business ventures, but also to other innovative activities and orientations such as development of new products, services, technologies, administrative techniques, strategies and competitive postures. This conceptualization of corporate entrepreneurship is consistent with past definitional distinctions between entrepreneurial and less entrepreneurial properties (Schumpeter, 1934; Stevenson & Gumpert, 1985; Covin & Slevin, 1991; Bull & Willard, 1993) and views that consider these distinctions on a continuum (Covin & Slevin, 1988; Zahra, 1991, 1993; Morris & Sexton, 1996; Knight, 1997; Lumpkin & Dess, 1997; Lumpkin, 1998; Brazeal & Herbert, 1999).

The most important consequence of corporate entrepreneurship is firm performance. An important question that arises is whether direct effects of corporate entrepreneurship and its correlates are relatively more, less or equally important as interaction or moderation
effects of these elements on performance. Importance of congruence or fit among various elements in explanation and prediction of firm performance has been advocated by researchers in organizational design and contingency theorists (Burns & Stalker, 1961; Woodward, 1965; Lawrence & Lorsch, 1967, Thompson, 1967; Galbraith, 1973, 1977; Tosi & Slocum, 1984; Nadler & Tushman, 1992, 1997). Venkatraman (1989) proposes alternative models that can be useful in the investigation of the influence of third variables as a means of exploring contingency relationships. Lumpkin and Dess (1996), and Lyon, Lumpkin, and Dess (1999) also advocate contingency modeling as a way of enhancing theory and measurement of firm-level entrepreneurial orientation. With this in mind, it is necessary to develop alternative hypotheses that include interaction, indirect, as well as direct effects in a corporate entrepreneurship model in order to advance theory. Indeed, the fit between entrepreneurial orientation as a strategic element and its organizational and environmental contexts may have a positive impact on performance, not the existence of such orientation per se (Zahra, 1993; Dess et al., 1997).

While all these corporate entrepreneurship models include performance as a dependent variable, six of them incorporate environmental and organizational characteristics simultaneously. Among these six more comprehensive studies two are conceptual (Covin & Slevin, 1991; Lumpkin & Dess, 1996), whereas four are empirical (Zahra, 1991; Russell & Russell, 1992; Naman & Slevin, 1993). Of these four quite comprehensive empirical studies only Naman and Slevin (1993) have actuality tested the impact of fits between corporate entrepreneurship and organizational and environmental factors on performance, propose in the two conceptual studies, but neither by testing these fits independently nor by including main effects (direct and indirect) among model elements. In three studies (Zahra, 1993; Zahra & Covin, 1995; Dess, Lumpkin & Covin, 1997) researchers tested the effects of moderation or interaction of environment and corporate entrepreneurship, but without accounting for organizational characteristics. Based on results of these empirical studies, it is not possible to ascertain what is more important for firm performance: corporate entrepreneurship per se, or its interaction with environmental or organizational factors (such as knowledge-based resources of the company). Some important relationships in the corporate entrepreneurship model have been left unresolved. To unleash and determine these relationships, it is therefore hypothesized that:

H_1: There is a positive correlation between "knowledge management" and "corporate entrepreneurship".

H_2: There is a positive correlation between "corporate entrepreneurship" and "financial performance".

H_3: There is a positive correlation between "knowledge management" and "financial performance" when intervened by "corporate entrepreneurship".

3.0 METHODOLOGY

This was a cross-sectional studies carried out in a natural environment where work proceeded normally or in other words in non-contrived settings. Since this study was a correlational study, it was conducted in the natural environment of the organizations, in which the researchers interference was very minimal with the normal work flow of work in these organizations. The respondents selected were manufacturing companies operating in the Sungai Petani Industrial Estate. We used a simple random sampling design with a sample size of 60 manufacturing companies (the actual respond was 36 companies). The unit of analysis was the factory heads or managers involved in the operations and/or responsible for bottom-line objectives. As can be seen from Table 1, the instruments used in this study were noted to have acceptable reliability where all items recorded an Alpha value exceeding 0.7 (Nunnaly, 1978).

Table 1: Results of the reliability analysis

Construct	Variable Name	Items	Alpha
Knowledge creation	kcreat	37	0.8886
Knowledge sharing	kshare	42	0.8079
Knowledge application	kapply	37	0.8726
Knowledge retention	kretent	20	0.9288
Corporate entrepreneurship	corentre	19	0.7906
Financial performance	fperform	16	0.9263

The dependent variable in this model was the "organization's financial performance" in which it's variation was described by the independent construct "knowledge management processes" However, it was envisaged that this relationship was also affected by the presence of the third variable (the intervening variable) that modified the original relationship between the independent and the dependent variables. The intervening variable in this model was "corporate entrepreneurship" that had a strong contingent effect on the independent variable-dependent variable relationship (Figure 1).

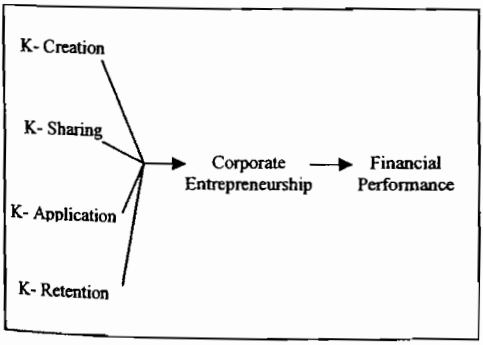

Figure 1: Conceptual theoretical framework

Measurement instruments and measuring scales (ranging from 1 to 5: 1 denotes strongly disagree; 2 disagree; 3 neither agree nor disagree; 4 agree; and 5 strongly agree) used in respect of the various constructs were summarized as follows:

Table 2: Measurement instruments and scales

Constructs	Items	Scale	Literature
Knowledge creation	37	5-point Likert	Bukowitz & Williams (1999)
Knowledge sharing	42	5-point Likert	Bukowitz & Williams (1999)
Knowledge application	37	5-point Likert	Bukowitz & Williams (1999)
Knowledge retention	20	5-point Likert	Bukowitz & Williams (1999)
Corporate entrepreneurship	19	5-point Likert	Morris & Sexton (1996)
Financial performance	16	5-point Likert	Edvinsson & Malone (1997)

4.0 RESULTS AND ANALYSIS

4.1 Demographic Background

The survey was performed on several manufacturing companies in the Sungai Petani Industrial Estate. The respondents were the plant heads or managers that were responsible for plant operations and/or bottom-line results. Of the 60 companies surveyed, only 36 companies responded through returned-mail questionnaires. In terms of gender, 28 (or 77.8%) were males and the remaining 8 managers (or 22.2%) were females. Most of the respondents were Chinese (55.6%), followed by Bumiputera (33.3%), and foreigners (11.1%). As expected, most of them were having either first or second degrees (88.9%) whilst the remaining rose to their present positions from the rank-and-file. 88.9% of the companies were mid-sized having paid-up capital between RM500,001 to RM2.5 million with the remaining 11.1% were large companies with paid-up capital exceeding RM2.5 million. Most of these companies were established more than 15 years ago.

4.2 Analysis of Hypothesis 1

As can be observed from Table 3, generally all dimensions of the knowledge management processes showed a near to "above average" means coupled with fairly low standard deviations. For examples, the mean (M) for knowledge creation (KCREAT) was M = 3.7920 and standard deviation (SD) = 0.29458; the mean for knowledge sharing (KSHARE) was M = 3.6111 and SD = 0.25555; the mean for knowledge application (KAPPLY) was M = 3.6547 and SD = 0.34108; and the mean for knowledge retention was M = 3.7278 and SD = 0.44472. These indications were

consistent with the current competitive environment where companies were driven largely by the emergence of the knowledge society, as organizations move from productivity based on "make and move" to one based on "knowledge and service". The emergence of the "knowledge era" had radically changing what created value in organizations, whereby the long-term viability and prosperity of an organization increasingly depended on its management's ability to leverage the hidden value of its intangible assets. As Drucker (1992) predicted, while the intangible assets of firms were increasingly essential to their survival, most organizational decision makers had no idea whether they were augmenting such assets or depleting them; if they were depleting them, they were sapping their ability to create value, with tragic consequences for the organization.

Table 3: Mean and standard deviation

	KCREAT	KSHARE	KAPPLY	KRETENT
Mean	3.7920	3.6111	3.6547	3.7278
SD	.29458	.25555	.34108	.44472

It was observed that the four core dimensions of the knowledge management processes explained 95.9% in the variation of corporate entrepreneurship. With F value = 181.709, p = 0.0001 < 0.05 was highly significant at 95% confidence level. We concluded that there was a positive correlation between knowledge management processes and corporate entrepreneurship (Tables 4, 5 and 6). All dimensions of knowledge management were found to be significant except for knowledge application. The two most dominant factors in ensuring successful implementation of knowledge management were knowledge sharing and knowledge retention factors.

Table 4: Model Summary

R	R Square	Adjusted R Square	S. Error
.979(a)	.959	.954	.07650

a Predictors: (Constant), KRETENT, KCREAT, KAPPLY, KSHARE
b Dependent Variable: CORENTRE

Table 5: ANOVA

	SS	df	MS	F	Sig.
Regression	4.253	4	1.063	181.79	.000(a)
Residual	.181	31	.006		
Total	4.435	35			

Table 6: Coefficients

	Standardized Coefficients	t	Sig.
	Beta		
(Constant)		2.909	.007
KCREAT	-.190	-4.518	.000
KSHARE	.294	3.682	.001
KAPPLY	.097	1.404	.170
KRETENT	.722	12.460	.000

a Predictors: (Constant), KRETENT, KCREAT, KAPPLY, KSHARE
b Dependent Variable: CORENTRE

Dependent Variable: CORENTRE

Effective management of intangible assets would require a radically different approach to both management and leadership. Valuing and measuring intangible assets would promote strategic organizational learning (Itami & Roehl, 1987) and generated the renewable organizational capabilities required to meet customer expectations on an ongoing basis. Organizations had to face up to the challenge of enhancing capability to match the rapid evolution of market demands. In the knowledge era, the creation of corporate value would result from the acceleration of organization learning which was the engine to generate intangible assets, including critical core capabilities.

4.3 Analysis of Hypothesis 2

As can be seen from Table 7 corporate entrepreneurship only explained partially (55.5%) variation in financial performance of firms surveyed. From Table 8, given the F value = 42.383, p = 0.0001 < 0.005 which was significant at 95% confidence level. From both the information derived from Tables 8 and 9, it was deduced that there was a positive correlation between corporate entrepreneurship and firm's financial performance. The mean for corporate entrepreneurship was 3.7602 with standard deviation of 0.35595. With corporate entrepreneurship process in a firm, specific entrepreneurial aspects of decision-making styles, methods, and practices were being captured strategically. As such, this would reflect how a firm operates rather than what it does (Lumpkin & Dess, 1996). It would also represent how a firm was organized in order to discover and exploit opportunities. From resource-based theory, the way that a firm was organized when combined with firm resources could enhance the positive relationship between resources and firm performance (Barney, 1995). Wiklund and Shepherd (2003) proposed a positive relationship between knowledge-based resources applicable to the discovery and exploitation of opportunities and firm performance. They further proposed that a firm well endowed with these resources

would perform even better if it had incorporated corporate entrepreneurship. In other words, the methods, practices, and managers with a decision-making style which promote a willingness to capitalize on its knowledge-based resources by engaging in entrepreneurial activities that could enhance firm's performance.

Table7: Model summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.745(a)	.555	.542	.36617

a Predictors: (Constant), CORENTRE
b Dependent Variable: FPERFORM

Table 8: ANOVA

	SS	df	MS	F	Sig.
Regression	5.683	1	5.683	42.383	.000(a)
Residual	4.559	34	.134		
Total	10.242	35			

a Predictors: (Constant), CORENTRE
b Dependent Variable: FPERFORM

Table 9: Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.441	.657		-.671	.507
CORENTRE	1.132	.174	.745	6.510	.000

a Dependent Variable: FPERFORM

4.4 Analysis of Hypothesis 3

The mean (M) and standard deviation (SD) for corporate entrepreneurship, financial performance and knowledge management were M = 3.7602, SD = 0.3560; M = 3.8160, SD = 0.5409; and M = 3.6964, SD = 0.2804 respectively. From Table 10, we observed that the partial correlation coefficients (PCC) between knowledge management and financial performance was 0.6844, p = 0.0001 which was lower than the PCC between corporate entrepreneurship and financial performance (0.7449), p = 0.0001. Both the PCCs were significant at 95% confidence level. From Table 11, we observed the partial correlation coefficients = 0.4191, p = 0.0001 highly significant at 95% confidence level. We could confirm the relationship between knowledge management and financial performance when intervened by corporate entrepreneurship.

Firms that had corporate entrepreneurship focus were prone to focus their attentions and efforts for new opportunities by utilizing their knowledge resources (or intellectual assets) in realizing their bottom-line objectives (Wilkund & Shepherd, 2003). The corporate entrepreneurship process comprised of three dimensions (Wilkund, 1999): innovativeness; pro-activeness; and risk taking. The process of corporate entrepreneurship could assist companies to seek new opportunities. Innovative companies, creating and introducing new products and technologies could generate extraordinary economic performance and had even been described as the engines of economic growth (Brown & Eisenhardt, 1995). Pro-active companies could create first-mover advantages, target premium market segments, and 'skim' the market ahead of competitors (Zahra & Covin, 1995). They could control the market by dominating distribution channels and establish brand recognition. While tried-and-true strategies may led to high mean performance, risky strategies leading to performance variation may be more profitable in the long run (McGrath, 2001). Previous empirical results provided support for a positive relationship between corporate entrepreneurship and performance (Wiklund, 1999).

Table 10: Partial correlation coefficients zero order partials

	CORENTRE	FPERFORM	KMGT
CORENTRE	1.0000 (0) P= .	0.7449 (34) P= 0.000	0.8622 (34) P= 0.000
FPERFORM	0.7449 (34) P= 0.000	1.0000 (0) P= .	0.6844 (34) P= 0.000
KMGT	0.8622 (34) P= 0.000	0.6844 (34) P= 0.000	1.0000 (0) P= .

(Coefficient / (D.F.) / 1-tailed Significance)
" . " is printed if a coefficient cannot be computed

Table 11: Partial correlation coefficients controlling for kmgt

	corentre	fperform
corentre	1.0000 (0) p= .	0.4191 (33) p= 0.006
fperform	0.4191 (33) p= 0.006	1.0000 (0) p= .

(Coefficient / (D.F.) / 1-tailed Significance)
" . " is printed if a coefficient cannot be computed

5.0 CONCLUSION

An impressive benefit from knowledge management projects involved money saved or earned. At Dow, for example, a key focus of the knowledge management initiative was better management of company patents. A goal was to lower taxes paid on patents that were no longer useful. This initiative saved the company $4 million in the first year. At Texas Instruments, a

strategic focus was increasing revenues through licensing of patents and intellectual property. In 1995, Texas Instruments reportedly earned nearly $200 million from patent licensing. Ernst & Young measured the amount of knowledge it reused in the form of proposals, presentations and deliverables and the contributions of its knowledge repository to closing sales. Benefit calculations may also be indirect, like improvements in measures like cycle time, customer satisfaction, etc. Hoffmann-LaRoche had designed projects to significantly reduce time to market for new drugs in an industry where even a day's delay can represent $1 million in lost revenues. Several knowledge management projects in the customer support process attempted to improve customer satisfaction by reducing waiting time for phone support, all factors which led to higher productivity and quality within the organization (Davenport et al., 1998).

Past research had examined corporate entrepreneurship correlates (organizational and environmental factors, and performance) in relation with corporate entrepreneurship either by connecting two or more of them together with corporate entrepreneurship into a model or by studying a specific relationship between corporate entrepreneurship and a particular correlate on it's own. Most of corporate entrepreneurship research examining relationships of corporate entrepreneurship with its antecedents and consequences fall into the latter. On the other hand, only a few studies could be identified in which corporate entrepreneurship models were built and explored. In this paper we had modeling the relationship between knowledge management, corporate entrepreneurship and firm's financial performance. We had proven the significance of this model that was in tandem with strategic mission and vision of firms competing in the era of the knowledge-based economy having to face the challenges brought about by globalization. In an ever-changing world, knowledge would play an increasingly vital role in establishing competitive and strategic advantage. When corporate entrepreneurs were able to effectively manage the knowledge assets, this would contribute toward building core competencies that are essential determinants of success in any manufacturing organizations.

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